We Claim As Our Invention:

1. In an X-ray examination arrangement having an X-ray source mounted at a gantry which is rotatable around a rotatable axis, the improvement of a cooling arrangement for said X-ray source comprising:

a ring-like heat exchanger disposed at said gantry and in thermally conductive connection with said X-ray source.

2. A cooling arrangement as claimed in claim 1, wherein said heat exchanger is rotatable around said rotational axis together with said gantry.

3. The improvement of claim 1, wherein said heat exchanger comprises at least one heat exchange element.

4. The improvement of claim 1, wherein said heat exchanger has a flow path therein, and further comprising a heat transfer medium flowing through said heat exchanger in said flow path.

5. The improvement of claim 1, wherein said heat exchanger comprises at least two heat exchange elements thermally conductively connected to each other, and at least one of said heat exchange elements being thermally conductively connected to said X-ray source.

6. The improvement of claim 5, further comprising a circumferential covering disposed between said at least two heat exchange elements.

7. The improvement of claim 1, wherein said heat exchanger is rotatable around said rotational axis together with said gantry, and further comprising a plurality of annular guide devices disposed at said heat exchanger and conducting an airstream, generated by rotation of said heat exchanger and heated at said heat exchanger, away from said gantry toward an exterior of said gantry.

8. The improvement of claim 1, wherein said heat exchanger is a first heat exchanger, and further comprising a second heat exchanger disposed in a thermally conductive path with said first heat exchanger, with said first heat exchanger transferring heat from said X-ray source to said second heat exchanger.

9. The improvement of claim 8, wherein said second heat exchanger is stationary relative to said first heat exchanger.

10. The improvement of claim 8, wherein said second heat exchanger is annularly disposed around said first heat exchanger.

11. The improvement of claim 8, wherein said second heat exchanger is disposed axially offset, along said rotational axis, from said first heat exchanger and is attached to said first heat exchanger.

12. The improvement of claim 8, wherein said second heat exchanger comprises at least one heat exchange element.

13. The improvement of claim 8, wherein said second heat exchanger comprises at least two annular heat exchange elements that are thermally conductively connected to each other.

14. The improvement of claim 13, further comprising circumferential coverings disposed between said at least two heat exchange elements of said second heat exchanger.

15. The improvement of claim 8, wherein said second heat exchanger has a flow path therein, and further comprising a heat transfer medium flowing through said second heat exchanger in said flow path.

16. The improvement of claim 8, wherein said first heat exchanger is rotatable around said rotational axis together with said gantry, and further comprising a plurality of inter-engaging annular guide devices for guiding an airstream, generated by rotation of said first

heat exchanger and heated at said first heat exchanger, from said first heat exchanger to said second heat exchanger.

17. A computed tomography apparatus comprising:

a gantry rotatable around a rotational axis;

an X-ray source and an X-ray detector mounted opposite to each other on said gantry, said X-ray source emitting heat during operation thereof; and

a ring-like heat exchanger disposed at said gantry and thermally conductively connected to said X-ray source for transferring said heat from said X-ray source.

18. A computed tomography apparatus as claimed in claim 17, wherein said heat exchanger is a first heat exchanger, and further comprising a second heat exchanger disposed in a thermally conductive path relative to said first heat exchanger for transferring heat from said first heat exchanger to an exterior of said gantry.